



09/269837
(atto. to paper #15)

EXHIBIT A

Referring to the enclosed Attachments:

It is noted that these Attachments are not included for the purpose of augmenting the sufficiently written Descriptions, Figures, Claims and designations of the present invention. The objective of the Attachments is not to reveal anything new regarding the present invention, but to provide background examples and relevant information, such as the accepted terminology regarding peripheral monocular fields and the historical evidence which defines the features and structure of the stereographic image format utilized in the 19th Century, for example.

It is also noted that the present invention was favorably reviewed, without the addition, augmentation, or benefit of these Attachments, in the PCT International Search Report (PCT/US97/18028), dated March 18, 1998; and also in the PCT International Preliminary Examination Report, dated June 15, 1998.

Attachment I Human Vision.

The nature of human vision can be discerned in the diagram included herewith. Note the three basic perceptual fields of vision, consisting of left and right peripheral monocular fields, and a central binocular stereo field, which is the perceptual area that enables 3D vision. These three fields comprise the "full field of view" or "immersive visual field" of human vision. These fields and the terms used to designate them should be obvious to those skilled in the art.

These fields are extensively designated and utilized in the present invention:

See:

- a) Description of the Invention, Stereoscopic Viewer, page 2, lines 30-31; page 3, lines 1-20.
- b) Brief Description of the Drawings, page 5, lines 31&32; page 6, lines 1-6.
- c) Figures 7-9.
- d) Detailed Description of the Drawings, page 9, lines 15-32; page 10, entire page.
- e) Claim 17 of the previously written claims; Claim 22 of the presently extant claims.

It is noted that these terms: left and right peripheral monocular two-dimensional fields; central binocular stereo three-dimensional field; immersive visual field; or monofields are not reasonably suggested, mentioned, designated, written, named, visually drawn, illustrated, or diagrammed in any way in the prior art cited in the Detailed Action.

This lack of said terminology in the prior art is understandable, because none of the cited prior art teaches the objectives of the present invention, or is capable of utilizing adjustable lenses and adjustable occluding apertures working in concert with the positioning means of the content support portion and the viewer pivotal chassis, to precisely achieve and maintain alignment of left and right peripheral monofields with an central stereofield, *within the interior of the overall image field being viewed.*

One of the primary objectives of the present invention is to convey an accurate simulation of human vision, which is stated clearly in the Description. This objective is achieved.

Attachment II

Before Fusion: Peripheral Monocular and Binocular Stereopaired Fields
in Actual Stereographic Images.

Herewith are two actual contemporary stereographic immersive examples, provided by the applicant, each showing the four content fields (which become three perceptual fields after fusion) as designated in written and diagrammed form in the present invention. Please note how the structure of the content areas/fields indicated within these images correspond with the structure of the areas/fields as diagrammed in Figure 8.

Note how the structure of the fields can be discerned, regardless of specific pictorial content, which is why two totally different pictorial examples are included.

Note how, in the images shown, the left and right peripheral content fields, in a manner similar to human vision, are configured to convey left and right two-dimensional content that flanks the central binocular 3D content, and that this flanking content is beyond the range of binocular fusion in human vision (see Attachment I) and therefore has no binocular pair-mate with which to enable stereo fusion.

Most importantly, unlike typical stereographic images of the past, note that the inclusion of peripheral visual content makes the far left interior area of the left image highly

dissimilar from the far left interior area of the right image and respectively, the far right interior area of the right image is dissimilar to the far right interior area of the left image.

Also note in Figure 8, how the left and right stereopair alignment targets (10L & 10R) are centered in the binocular stereo fields (2L & 2R) instead of the overall left and right image areas/fields.

Attachment III

After Fusion: Relationship of the Peripheral Monocular 2D Fields to the Central Binocular 3D Field in Actual Stereographic Images.

Herewith are the same two examples of Attachment II, which are now altered to provide a simulated view of these examples as they would appear while viewing them with the present invention after fusion, as substantially designated in written and drawn form in the present invention.

Please note how the structure of the content fields/areas indicated correspond with the structure of the diagram in Figure 9, regardless of the differences in specific pictorial content of these two examples.

It should be understood that the indicated central 3D field is not actually in 3D here, but this example is useful in indicating, as does Figure 9, the overall extent and arrangement of the interior image fields, and their boundaries within the full field of view.

Note the relative position of the alignment targets 10L & 10R in Figures 8 and 9; and also note how the central 3D field is deliberately designated 3D, and the two flanking peripheral 2D fields are deliberately designated 2DL and 2DR.

Note that the perceived full field of view closely simulates natural vision in the aspect that it has a substantially wider, horizontal, and more immersive proportion (see Figure 9) than the typical vertical, squarish proportion of a fused stereograph of the 19th Century era, as will be shown in the following Attachments.

Attachment IV

Before Fusion: The Typical 19th Century Stereographic Format.

Included herewith are the two previously utilized contemporary image examples of Attachments II and III, which have been reformatted (i.e., the peripheral

monofield content has been removed) into the typical stereographic format of the 19th Century, the structure of which should be easily recognizable to one skilled in the art.

It is important to note the similar appearance of the pictorial elements within each of the far-left interior areas of the left and right stereo pair images, and respectively, the similar appearance of the pictorial elements within each of the far right interior areas of said left and right images:

In the London Street image, note the similar position, in relation to each of the right edges, of the London street clock in both the left and right stereopair images. In each far left side of the left and right image pair, just at the very edge, a modern street lamp can just be seen above the street.

It should be understood by those who are skilled in the art, that all of this paired content would fuse into a 3D image, because it is positioned to occupy the central binocular stereofield.

In the ship image, note how the same optical principles (familiar to those with skill in the art) can be discerned, even when the specific imagery content is totally different: in each upper left corner of the left and right images, note the similar position of the prow of the ship, and in the far left area of each pair image, the dock building in the distance. Again, these paired pictorial elements are positioned to create a 3D image when fused by the user.

Upon direct comparison of these 19th Century formatted images with the images of Attachment II, which are basically the same content images, except that they include said peripheral field content, one will immediately notice that inclusion of the 2D peripheral field content extends the scope, range and proportion of the overall image field quite substantially, for example, note the length of the dock building in the left area of the left image, and in the right image, the dock itself is visible to the far right. The London Street image in Attachment II has an extra building included because of the left peripheral field content!

Note also that the previously noted dissimilarities in the far left and far right interior image areas (i.e. the areas occupied by the peripheral field content) as shown in the examples of Attachment II, cause the basic structural, proportional aspects of the left and right image areas, regardless of specific pictorial content, to have a strikingly different structure from the traditional format structure used in the stereographs of the 19th Century.

It would also be useful to compare the reformatted images herewith this Attachment with the images of actual 19th Century stereographs in the following Attachments V & VI.

Attachment V

Images of Actual 19th Century Stereographs.

Included herewith are two images of actual 19th Century stereographs, that have been scaled down so they may be “free viewed” (a common skill for anyone familiar with the art) without a viewer.

One can use the dots above the images to aid in fusion, if one converges one's eyes until the two dots become three dots, one will then see the well-known “Three Picture Effect”, also referred to as the “Three Window Effect”, whereby the center image is fused and seen in 3D.

Upon examination of the stereographs while not free viewing them, note that there is no inclusion of peripheral field content as designated in the examples of Attachments I & II.

Most importantly, note the nearly identical positions of the Great Pyramid in relation to each of the left and right picture edges of the left and right images of the stereograph. This type of identical compositional relationship of the imagery to the picture edges of the left and right images of a traditional stereopair, especially when distant objects on the horizon are in the stereographic image, is consistent in all such images, regardless of specific imagery subject matter, which is why two totally different pictorial examples were included herewith instead of merely one, so the fundamental optical principles can be seen to apply and exist within the basic structure of the stereograph. These principles are well-known in the art.

Towards this purpose, one will note in the African River stereograph the nearly identical positions of the distant treeline behind the elephants, relative to each of the left and right picture edges of the left and right images of said African stereograph.

Attachment VI

After Fusion: The "Three Picture Effect".

If one cannot free view the examples provided in the previous Attachment V, herewith is a simulation of what is seen after fusion, and is typically referred to the "Three Picture Effect" in the art. This effect always occurs when one free views a stereographic image as said, without a viewer.

This simulation basically shows the arrangement and extent of the stereopair fields after fusion, and it should be understood that the central picture would be perceived in 3D, while the two flanking but similar pictures would be perceived in 2D.

Attachment VII

After Fusion: The Traditional Stereograph As Seen With a Typical 19th Century Stereoscopic Viewer.

Included herewith is a simulated after fusion view which portrays, from the viewpoint of the user, how a fused 19th Century image would appear in a typical viewer of the era; and it should be understood that this representation is not in actual 3D, but does indicate the extent of the image field boundaries and the overall field of view, as seen through a 19th Century viewer, and as such, should be very familiar to anyone who has used said viewer of this type.

The proscenium-like areas indicated on the left and right of what would be the fused central 3D image are created by the septum-like dividing partition mounted on the typical viewer of the era. This partition was utilized to block out and thus correct the "Three Picture Effect" (see Attachment IV) that occurs with this stereographic format after fusion. This is all well-known in the art.

The "Three Picture Effect" was also corrected by other partition-type means and devices of the era, including the flaps "h" of Stevens (see Figure 1, "h", Stevens) and the cited (see section 8, page 7, lines 16 - 20, page 8, lines 1 - 3, Detailed Action) shields 15 & 16 of Huber and Leasure (see Figure 1, 15 & 16, Huber and Leasure); and more recently, the folding septum member 144 of Curtain (see Figure 25, 144, Curtain). However, none of these devices teach by configuration or designation in a drawn or written manner, the utilization of these said means for the purpose of enabling the perception of left and right

peripheral monocular fields with a central stereo three dimensional field, which together combine to form an immersive full field of view that simulates human vision, as is clearly designated throughout the present invention (see Attachment I for a list of references regarding this subject in the present invention). Nor would any of these cited devices be capable of fulfilling this designated objective, et al.

This stated objective of the capability to convey to the user an immersive full field of view is achieved with the designated means of the present invention by enabling a set of exact optical parameters to co-exist and be quickly and precisely adjusted by the user, to the individual requirements of the user, and to also be maintained by the device while viewing the content. The close alignment of the content fields, which are precisely blended into an overall, immersive image field with the adjustable lenses and adjustable occluding apertures, could not be achieved and maintained during viewing without the means of the entire device, including the content support portion, and the viewer pivotal chassis, and also, in terms of an acceptable user adjustment interface in today's impatient world, at least one quickly sliding, easy to reach adjustment switch on the viewer.

None of the prior art cited in the Detailed Action is configured to achieve this objective. The metal shield devices (see Figure 1, 15 & 16, Huber and Leasure) of Huber and Leasure, for example, would be impossible to utilize for the precise blending of said fields of content because they are mounted to a pair of frames 11 & 12, which are similar to eyeglasses in that aspect that they are secured to the user's head with ear-engaging members 24. Conversely, the present invention doesn't have any ear-engaging members, it is handheld.

More importantly, the Huber and Leasure device has no means of *linkage* with said content to achieve and *maintain* precise alignment with said content. By the way, said immersive content with peripheral fields didn't exist in 1916.

Furthermore, the Huber and Leasure device utilizes a means of adjusting the shields 15 & 16 which consists of a yoke block 20, which supports threaded rod 5, with rotatable knob 6 and two threaded blocks 9 & 10 attached to metal frames 11 & 12 (see figure 1, Huber and Leasure). This threaded screw-type adjustment means would be very slow to adjust into alignment.

Conversely, the present invention doesn't utilize any threaded, screw-type interocular adjustment means. The present invention, in an effort to be user-friendly, which is an important factor that can determine the survival of a product in today's world, is designed to adjust to the user's requirements very quickly.

The shields 15 & 16 of Huber and Leasure would be capable, if one held one's head and a single stereograph card of the era very steady in one's hand, of a partition type blocking function, to provide the "proscenium" wings to block the "Three Picture Effect", but it should be obvious to one skilled in the art that said shields and the eyeglasses-type arrangement of this device are not configured for or capable of precisely and quickly aligning and *blending* said visual fields of content within the interior of an overall immersive image field.

It is noted that the new Claims 33-36 of the present invention are written to particularly point out and distinctively claim the subject matter of the present invention as described in the written text and Figures, and thereby designates that said lenses and occluding apertures are not merely functionally integrated but are integrally merged and molded in one piece, as this provides for a very effective configuration with regard to optical performance and economical, efficient manufacturing and also, component assembly (see Figures 29, 32, 36, 37, 38, and 39, Claims 33-36 of the present application).

Attachment VIII

The Bierstadt Drawings of Stereographs in Figures 1 & 2: With Comparative Regard Towards Previously Written Claim 17 and Extant Claim 22 of the Present Invention.

As the previous Attachments demonstrate, there are certain optical principles and conventions that can be readily discerned in the stereographic format of the 19th Century. As the previous Attachments I - III comparatively demonstrate, the optical principles that determine said contemporary content field format of the present invention as designated (see Figures 7 - 9, previously written Claim 17, presently extant Claim 22, of the present invention and a) - e) in Attachment I for further reference) are discernibly, substantially distinct from said 19th Century format.

Therewith these aforesaid distinctions taken into account and placed into context, herewith are the Figure 1 & 2 drawings of E. Bierstadt, shown in a larger scale for purposes of clarity.

Attention should be directed to the renderings of the stereographs drawn in Figures 1 & 2, respectively, and it should be apparent that these are hand-drawn renderings of stereographs and as such, they are far from perfect. One may even say that they are rather

crude. However, although they are not extremely accurate, they do function well enough as *indicators*. And they do clearly indicate basic aspects that are relevant to the matters at hand.

Therein Figure 1, is a drawing of stereograph which depicts, in each left image area of the left and right images of the stereopair, a wooded foreground area with a ridged cliff face behind it, having some trees on the top of the cliff. In each right image area of left and right images of the stereopair is a distant mountain with a few lines drawn above it to indicate clouds. As was stated, these are not extremely accurate drawings, so the details of these hand-rendered lines don't exactly correspond with each other, but they are done well enough.

It is noted that even though much of the lower right half of the image area of the right image is obscured by the viewer section flap B, it is still very easy to see that the wooded area and the cliff face behind it positioned in the left area of the left image matches the positioning of the nearly identical wooded area and cliff face in the left area of the right image. This positioned arrangement of pictorial content confirms and corresponds to the demonstrated optical principles typical of said 19th Century stereographic image format structure, as noted in the previous Attachments and more importantly, which have been traditionally obvious for over a century to anyone with ordinary skill in the art.

What has been observed in Figure 1 is also readily discernible in Figure 2 (as the optical, structural principles do not change); the general mass and position of rendered ink lines in both the left and right images correspond with each other well enough to indicate that this is a drawing of a traditional stereograph. Note the two matching "treetops" in each of the left top corners of the left and right images.

Returning to Figure 1, since it is specifically cited in the Detailed Action, what is most revealing are the matching positions of the distant mountain and clouds in the right image area both the left and right images. Seen in the distance on the horizon, like the Great Pyramid shown in Attachments V, VI, and VII, the drawn lines that represent the mountain and the clouds are clear enough to provide a solid visual confirmation that this drawing depicts a normal 19th Century stereographic image structure with no peripheral monocular content whatsoever.

Furthermore, it should be obvious to anyone with ordinary skill in the art, and a respectful knowledge of the tradition of the art, that historically, inclusion of peripheral monocular field content wasn't done in the 19th Century, nor were the cameras of the era configured to capture peripheral monocular content. And yet, this premise is set forth in the

Detailed Action (see Section 8, page 9, lines 19 & 20, page 10, lines 1 & 2, of the Detailed Action).

Attachment IX

The Bierstadt Figures 1 - 3: Pivotal and Viewing Capabilities of the Bierstadt Device, Therewith Comparative Regard Towards Previously Written Claims 3 & 4 and Therefore, Extant Claims 23 & 25 and the Relevant Figures and Written Descriptions of the Present Invention.

Figures 1 - 3, the written description and the Claim ,which is designated “substantially as described “ (see column 2, line 35, Bierstadt) of the Bierstadt patent clearly indicate the capabilities of this device, and it is geometrically, optically, and in terms of pivotal capability, *impossible* for this device to view a stereographic image if it were to be placed on the horizontally oriented page surface seen in Figures 1 & 2, between flaps A & B and the vertically positioned page surface depicted with a stereographic image being viewed , as shown in said Figures.

And yet, this premise is put forth in the Detailed Action (see Section 8, page 8, lines 9 - 18, of the Detailed Action).

The written description (see column 2, lines 4 -9, Bierstadt) and Figures 1 - 3 clearly designate the focal length of the lenses to be equal to the width of the front cover of the device; and flap A itself (which is the same proportion as Flap B) to be less than half the width of the front cover proportionally, as designated by Bierstadt (see Figures 1 - 3, column 1, lines 22 - 27, Bierstadt); which means that even hypothetically, *if* said horizontal page surface were tilted and held vertically, so that the viewer Flap B could be held parallel to said page, as would be required for viewing (see column 2, lines 18 - 20, Bierstadt), because of the traditional “spine” or “back” location of the page pivot, and because of the stated and drawn proportion of Flap A, said hypothetically tilted and positioned to be viewed page would be severely out of focus in the lenses of the viewer, because the focal length of the lenses would be cut in half by the short proportion of flap A, which is half (or less) that of said proportional width of the front cover.

It is noted that in regard to previously written Claim 3, and thus to dependent Claim 4 of the present application, which designated:

“ the content support portion is configured to position and support the page axis and the plurality of pages provided with stereographic content, to thereby enable *two pivotally exposed pages* (this means two pages that are pivoted so they can both be seen at once, as in two spread pages), which are *adjacent to and opposite each other and disposed one on each side of the page axis, to be viewable with the viewer*”

This indicated language of previous Claim 3 clearly designates in geometric terms, what is commonly referred to as two spread pages, and that these said pages can have content on both exposed (spread) surfaces that can *be viewed with the viewer*. This configuration can be seen in Figures 2, 3, 6, 10, 11, 12, 18, 19, 21, and Figures 22, 24 & 26 which also indicate with respective arrows 34 - 36 a scanning capability. This page configuration, and the capability of said viewer to view, focus, and scan said page configuration, is clearly designated in the Description (see Chassis Pivotal Geometries, page 4, lines 1 - 9 of the present invention); it is also designated in the corresponding text for said Figures. Thus, said content can be placed on either or both of the exposed, spread page surfaces and viewed with said viewer.

It is noted that presently extant Claims 23 - 25 of the present application have been written to be more particular and distinctive in regard to these capabilities.

Conversely, as demonstrated, the Bierstadt device cannot perform said function (nor can any of the other cited examples of prior art), nor was it designated to do so; the Figures 1 & 2 and the written text of the Bierstadt patent clearly teaches which page surface can be viewed, and the procedure for doing so (see Figures 1 & 2, column 2, lines 10 - 21, Bierstadt); the key line in said text being:

“- To inspect the pictures the book is held open in one hand, with the picture to be examined vertical, *while all the leaves between the picture and the front cover are laid horizontally*, as shown in Fig.1”

As said, this operational mode is explicitly shown in Figures 1 & 2; Furthermore, corresponding with the mentioned text, Figures 1 & 2 *do not indicate in anyway* that the surface laid horizontally can convey an image to the viewer. In fact, Figure 2 discloses that said page surface is drawn to reveal what can clearly be seen as a representation of text, oriented in a conventional direction relative to the designated front cover and the “spine/back” page pivot as shown.

Attachment X

Means of Interocular Adjustment of the Prior Art of Stevens; Huber and Leasure; Rochite; and Merrick; With Comparative Regard Towards the Adjustment Means of the Present Invention.

In comparative regard towards the devices of Stevens and Huber & Leasure (see Figures 1, respectively, Stevens, Huber & Leasure previously cited) which utilize threaded, screw-type mechanisms for interocular adjustment: the present invention does not.

The Rochwite device, which is a film-transparency viewing device, not a book-type device, *does not* utilize two opposing linear gears meshed with a pinion gear for interocular adjustment as cited and set forth in the Detailed Action (see section 13, page 14, lines 15 - 20, page 15, lines 1 -6, of the Detailed Action), as does the present invention in one of its versions (see Figures 36, 37, extant Claim 36 of the present invention).

The Rochwite device *does* utilize two gear racks, 85, which are linear, and engage rotatable gears 86, but these are only used for *focusing*, not for interocular adjustment! See Figures 17, 18, & 20, and column 4, beginning at line 8 - 29, Rochwite.

Looking at Figures 16, 21 & 22, and column 3, lines 55 - 75, and column 4, lines 55 -75, Rochwite utilizes two *bar members*, 72, with slots 73, which engage two pins 81 on the face of gear 78, which is not a straight tooth pinion gear as is designated pinion gear 3G (see Figures 36 & 37, the present invention), but a beveled pinion gear which engages *yet another beveled* pinion gear 76, which is on shaft 75, which ends with rotatable adjustment switch 74, which is centrally located between and above the left and right lenses.

Conversely, the present invention uses only one pinion gear, not two beveled pinion gears; and uses no retaining springs 71 (Rochwite) and no radial-turning, mid-mounted adjustment switch.

It is noted that presently extant Claim 36 of the present application distinctively designates that each of said opposing linear gears are integral and molded in one piece with each of said lenses and merged occluding apertures (see Figures 36 & 37).

The Merrick device, also a film transparency viewer, utilizes a pivotal arm to move a complex series of linked mechanisms to achieve interocular adjustment.

There is nothing "simple" about this famous Viewmaster device. It proved to be so complex and costly to manufacture, assemble, and repair, that production was discontinued.

Looking at Figures 3 - 6, Merrick, arm 40 pivots on a screw axis which is parallel to the plane common to the left and right lenses, with a pivotal radial path that is perpendicular to said lense plane, which therefore, requires a substantial allotment of space in the viewer body.

It would be *impossible* to utilize the above said pivotal geometry of the Merrick device to create a thin profile viewer body as is achieved with the present invention.

The Figures 34, 35 & 39 and presently extant Claim 35 of the present invention clearly designate the necessary pivotal geometry for attaining the objective of a thin viewer body that can be folded into a compact, thin profile. This pivotal geometry is substantially different from the Merrick device; not only in its function, but also in the number of moving parts involved. The present invention utilizes three moving parts. The Merrick device has at least eight, and these are detailed said Figures 3 - 6 and in columns 2 and 4, et al., of the Merrick Patent.

Attachment XI

With Comparative Regard Towards:

Sleeves which are used to secure content pages to the content portion;

Transparent sleeves used for mounting stereographic photo prints;

A flat surface with content thereon;

A clipboard type content portion;

A mode of storage conformation, and configuration;

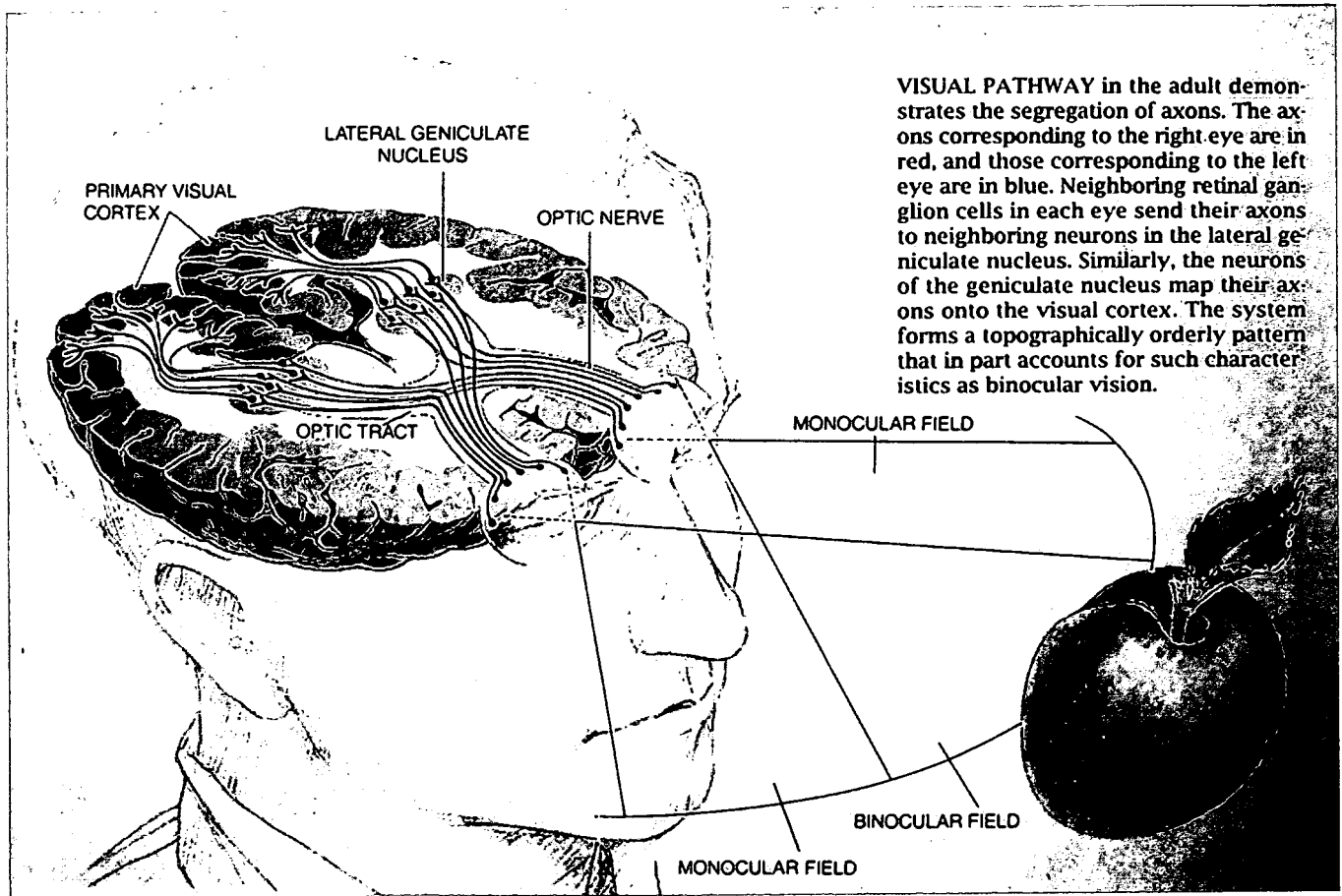
Releasable fasteners; et al.

There is nothing new about any of these things until they are placed into the context of the present invention. Then they are new.

For example, the device created and patented (# 5,309,280 previously cited) by this inventor, Charles Jones, is not the same device as the present invention, which has a substantially different viewer, content support portion, and very different viewer pivotal chassis .So when the present invention is folded up and secured with releasable fasteners, it's not the same, et al.

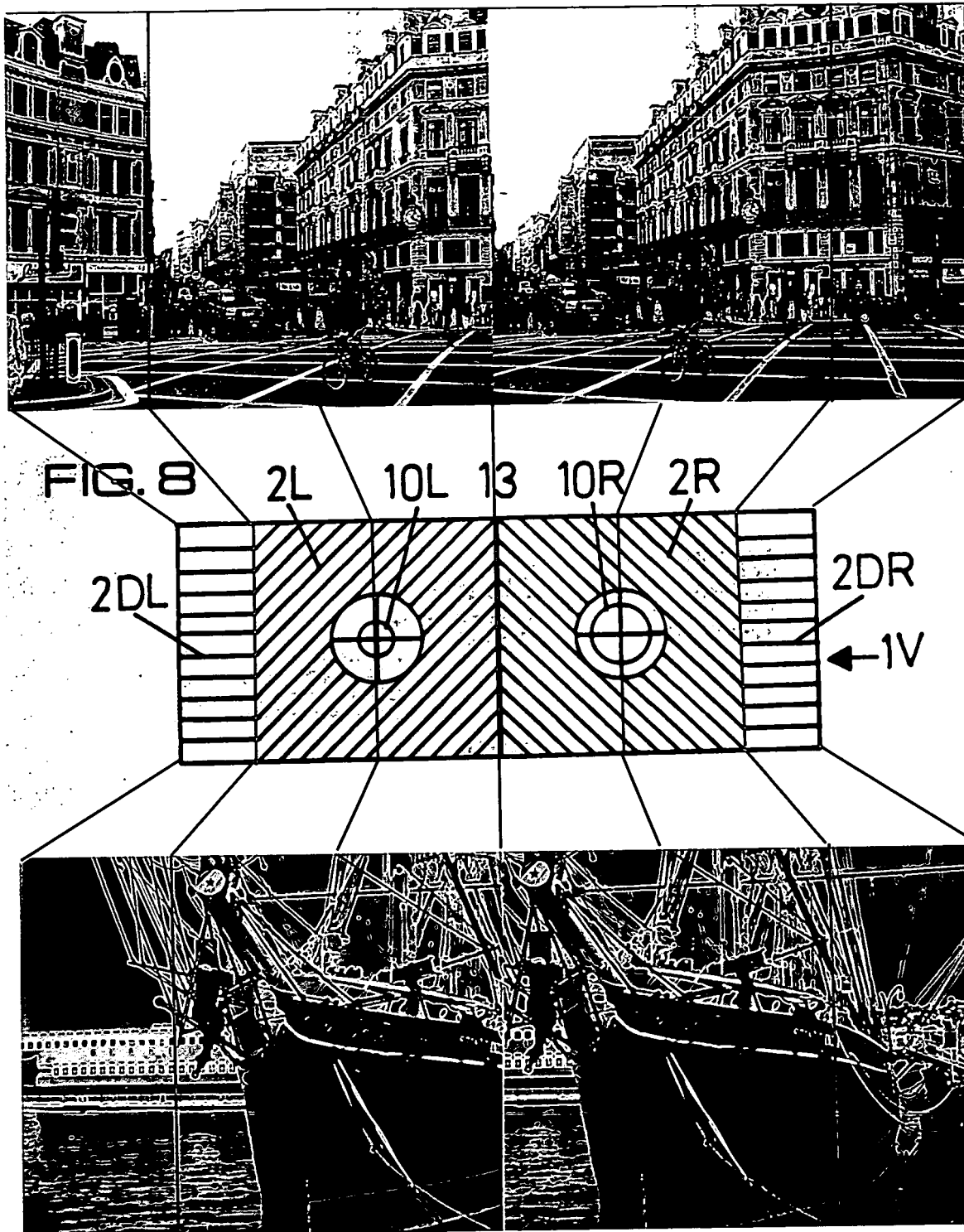
Attachment I

Human Vision.



Attachment II

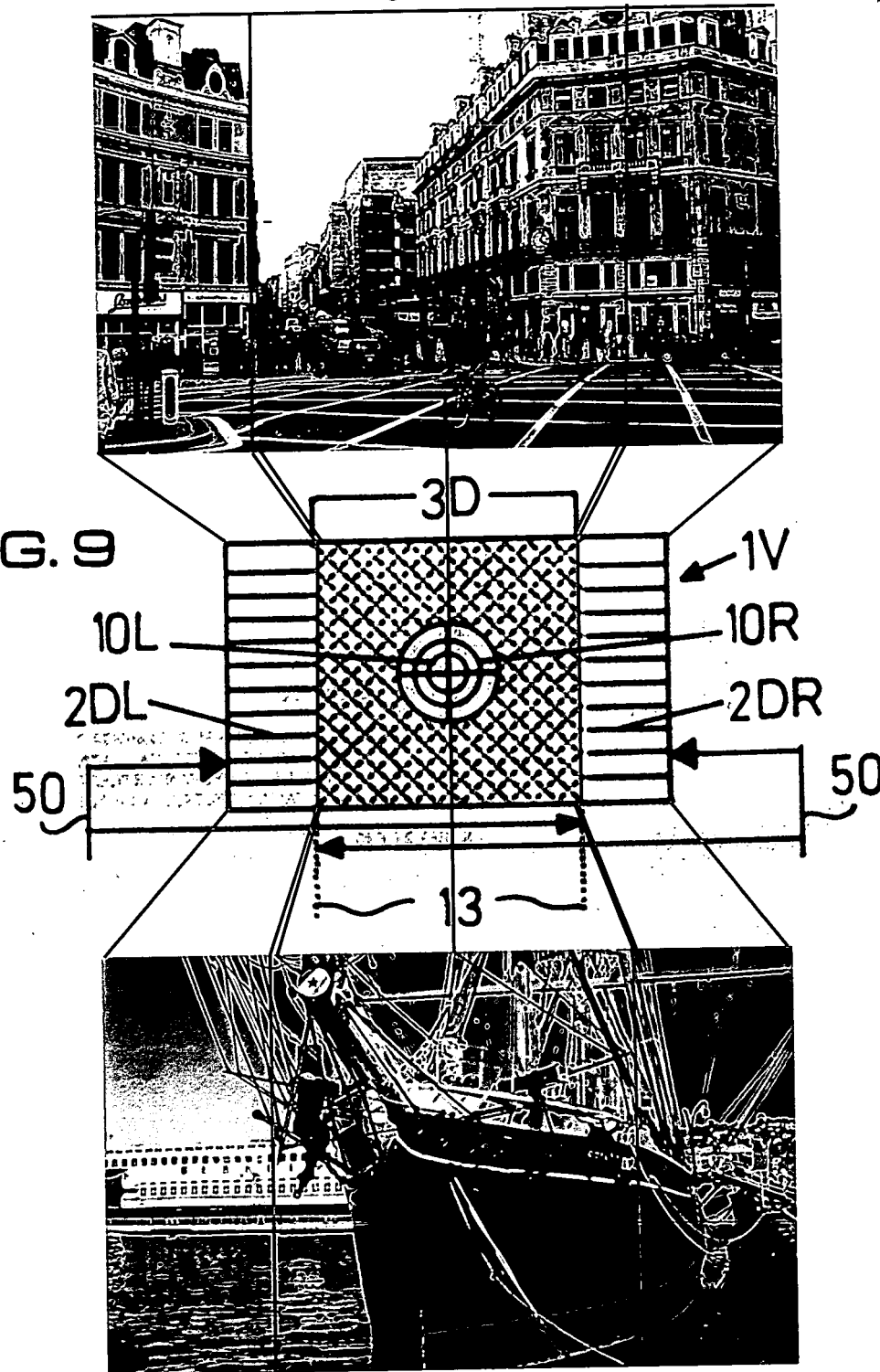
Before Fusion: Peripheral Monocular 2D Fields
and Binocular Stereopaired Fields in Actual Stereographic Images.



Attachment III

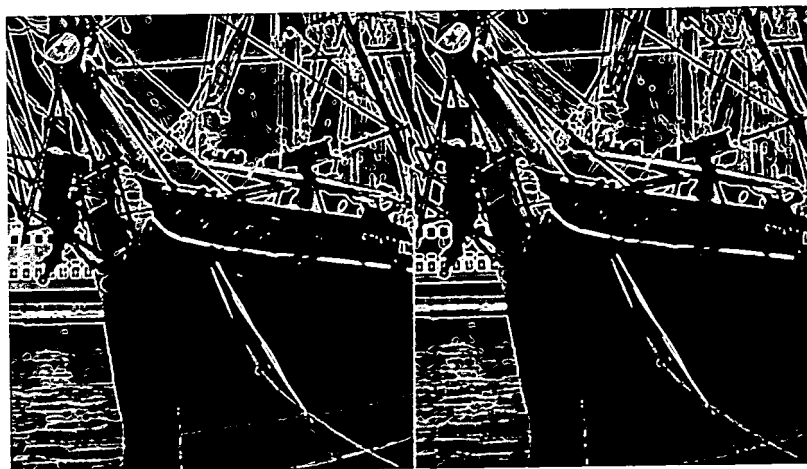
After Fusion: Left & Right Peripheral Monocular 2D fields
and the Central Binocular 3D Field in actual Stereographic
Images.

FIG. 9



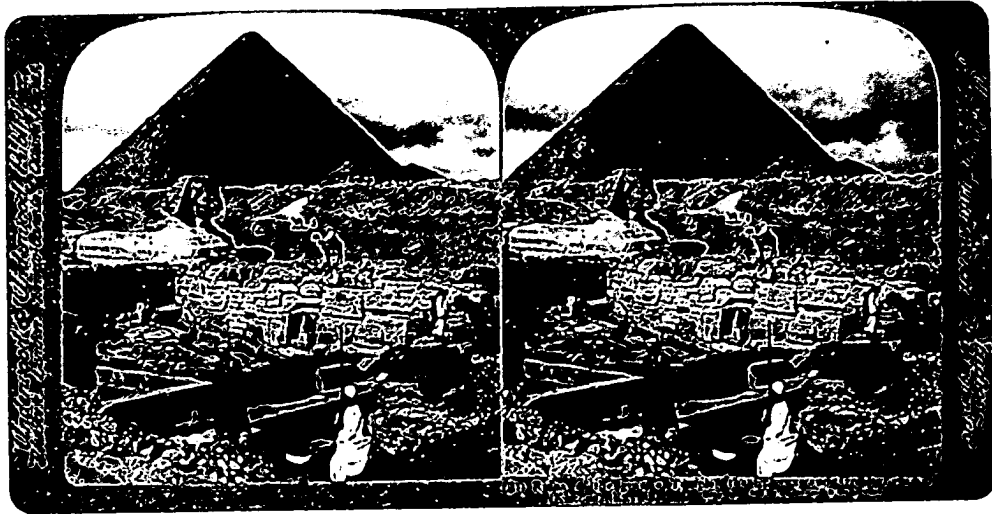
Attachment IV

Before Fusion: 19th Century Stereographic Format.



Attachment V

Images of Actual 19th Century
Stereographs for Free Viewing.



Attachment VI

After Fusion: The "Three Picture Effect".



The central image
is perceived
in 3D.

Attachment VII

After Fusion: As seen With a Typical 19th Century Stereoscopic Viewer.



The 3D stereoimage would have the appearance of a theatrical stage, with the proscenium-like wings created by the partition used to correct the "Three Picture Effect"...

The theatrical stage was a familiar form of entertainment in this era, so this was an apt and clever design for this type of viewer.

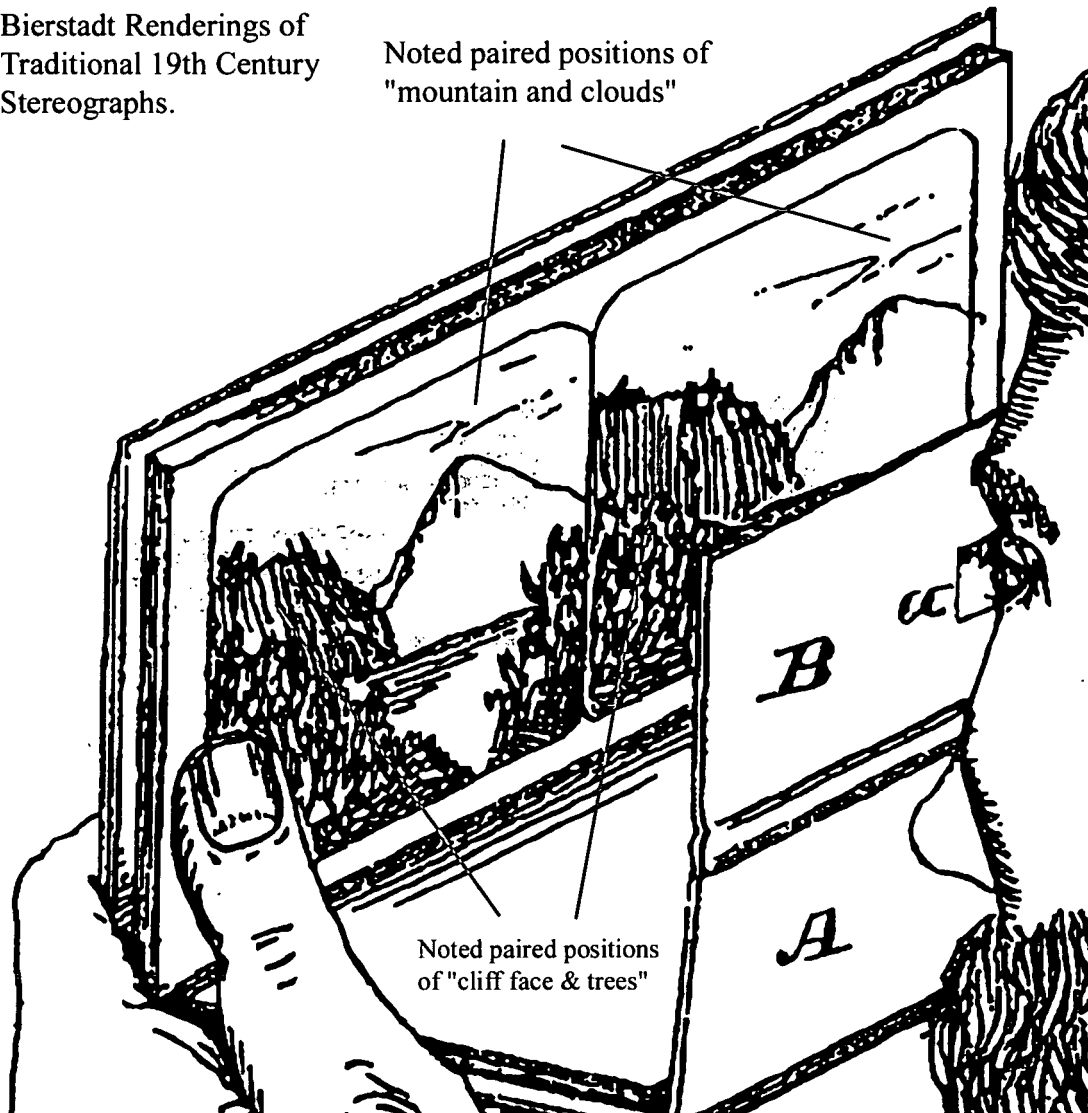
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Attachment VIII

Fig. 1.

Bierstadt Renderings of
Traditional 19th Century
Stereographs.

Noted paired positions of
"mountain and clouds"



Noted paired positions
of "cliff face & trees"

Attachment VIII

2 of 2 Renderings
Noted paired positions
of "treetops"

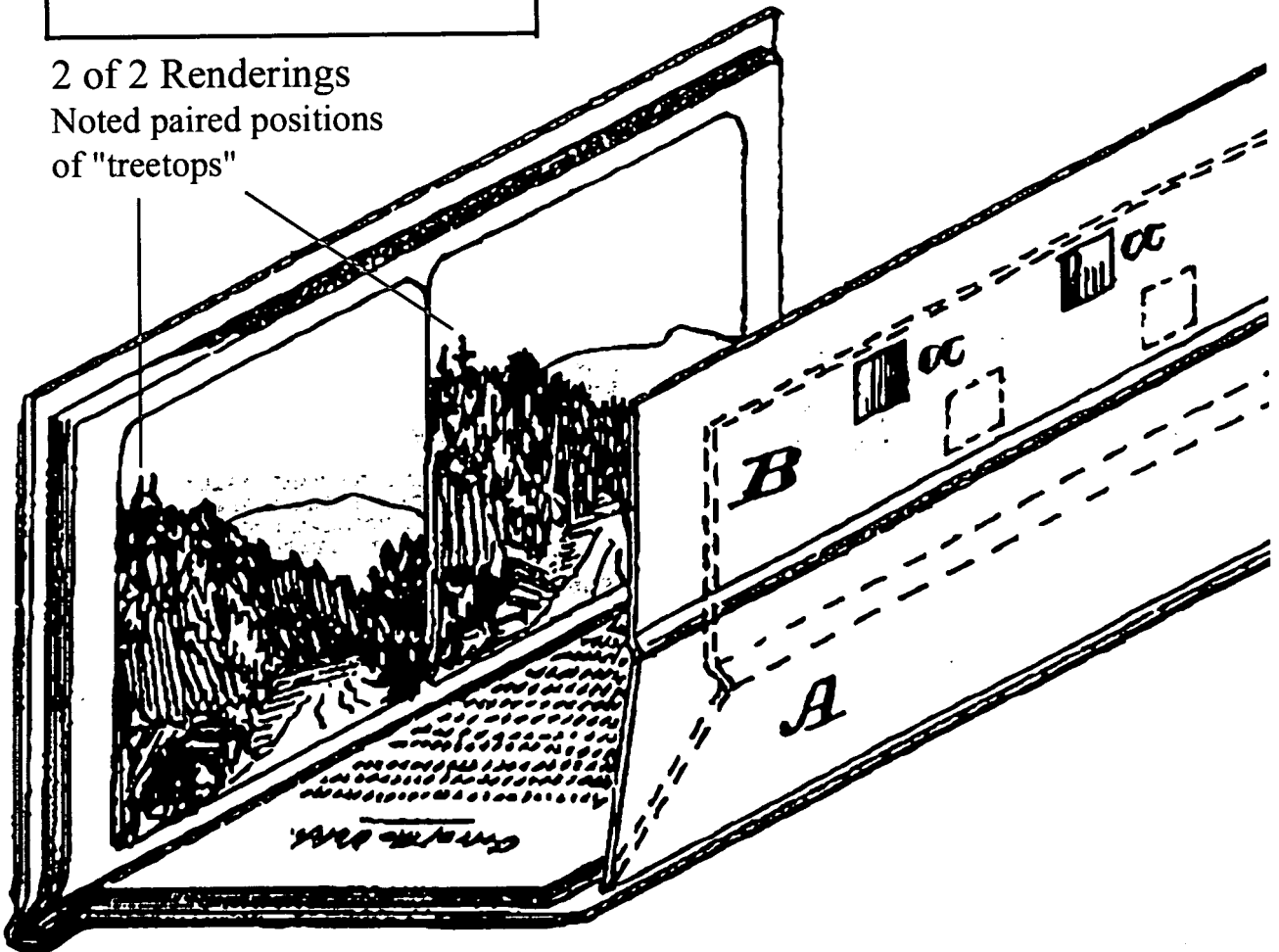


Fig-2.

Attachment IX

Fig. 2.

